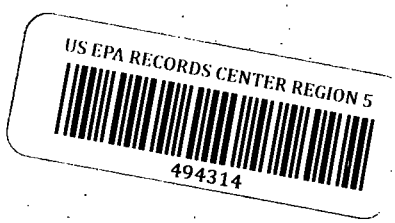
Painesville PRP Group

Non-responsive



August 7, 2012

Division of Emergency and Remedial Response
Ohio Environmental Protection Agency
Northeast District Office
2110 East Aurora Road
Twinsburg, Ohio 44087

U.S. Environmental Protection Agency
Region V (SR-6J)
77 West Jackson
Chicago, Illinois 60604

Attention: Ms. Teri Heer, Site Coordinator, Ohio EPA
Mr. Gunars Zikmanis, Ohio EPA
Ms. Linda Martin, U.S. EPA

Subject: Summary of Drainage System Maintenance, Operable Unit 20, Former Diamond Shamrock Works Site, Painesville Ohio.

Dear Ladies and Gentlemen:

The Former Diamond Shamrock Works Painesville Site (the site) is an approximately 1,100-acre former chemical manufacturing facility located in Lake County, Ohio (Figure 1). The site is subject to the Ohio Environmental Protection Agency (EPA) 1995 Director's Final Findings and Orders (DFFO) and a portion of the site is also subject to an 1983 Administrative Consent Order (ACO) with the U.S. EPA. As part of the DFFO remedial investigation and feasibility study process, the site was divided into 22 operable units (OU). OU20 is a land-based OU covering areas which include a portion of a permitted flyash landfill, former settling basin, and chromate ore process residual (COPR) disposal areas. Storm water run-off on the landfill is managed through grading and a drainage system including ditches, catch basins and storm sewers.

During routine inspections and operation of the groundwater extraction system located within OU20, three areas were identified in the eastern portion of OU20 in which the storm water drainage system warranted maintenance or repair. The locations of the areas are shown on Figures 2 and 3 and include the following:

1. A 24-inch concrete storm pipe beneath the north end of the OU20 access road (north storm pipe);
2. The storm ditch and pipe along the eastern property boundary (east Diamond ditch); and
3. A 12-inch concrete storm pipe beneath the middle of the OU20 access road (center storm pipe).

A work plan dated March 7, 2012 was submitted describing the maintenance and repair activities. These included repairing aprons and pipes to ensure that storm runoff was directed into and through the storm pipes and removing excessive vegetation or other debris that had accumulated within the ditch to re-establish the ditch channel. The Ohio EPA and the U.S. EPA provided approval of the activities in a

letter dated March 21, 2012. Notification of the start of the work was provided to the Ohio EPA and U.S. EPA on April 19, 2012. With the exception of a field modification to the installation of the center storm pipe as described below, the activities were completed as described in the work plan. A summary of the activities is provided below.

Excavated Material Handling

The Painesville PRP Group had a field representative familiar with the site material (COPR, fly ash, milk of lime precipitate) present during the excavation activities discussed below. Department of Transportation approved containers were available on site prior to the start of the intrusive work to containerize any COPR, fly ash or milk of lime settling material that might be encountered and required to be excavated to complete the repair work. However, no COPR, fly ash or milk of lime settling material were encountered during excavation activities. As such, there was no special handling or disposal of material required.

Top soil, when present, was scraped off to be used in restoration. As a precaution, excavated soil was placed on liners (Figure 4) until they were determined to be appropriate to use as backfill of the excavation. The depths of excavation were generally less than four feet and as indicated above, no COPR, fly ash or milk of lime settling material was observed.

North Storm Pipe Improvement

The western inlet of the 24-inch reinforced concrete pipe (RCP) that extends beneath the OU20 access road was several inches above grade. As such, a portion of storm water runoff appeared to flow beneath or around the pipe and in its backfill before discharging on the eastern side of the access road.

A new concrete apron and concrete lining in the ditch was constructed to adjust the grade and direct storm water into the north storm pipe inlet on May 1, 2012. The new apron and ditch liner was constructed using flowable fill and was tied to the headwall with reinforcing bars (See attached Photograph 1 and 2). A concrete lining was extended approximately 40 feet to the west to the outfall that enters the Fairport Nursery Road ditch to help maintain flow and grade within the ditch. The rock channel protection that was previously installed at the western inlet of the north storm pipe was incorporated into the construction of the apron. No excavation of soil was needed to complete this repair. Photographs of the construction of the new apron are provided as Photograph 1 through 8.

East Diamond Ditch Maintenance

Tall vegetation and accumulation within the open sections of the east Diamond ditch hampered the flow of the storm water off of OU20. The center portion of the east Diamond ditch is covered and storm water is conveyed in a 12-inch pipe to convey storm water flow past the OU20 Groundwater Extraction System. Storm water flow through the pipe appears to be uninhibited. In the northern section of the east Diamond ditch, the east-side of the ditch channel is defined by a concrete bank. However, the ditch channel had been filled from vegetation and sedimentation. The channel is well defined in the southern portion of the east Diamond ditch but was also filled with tall vegetation.

The vegetation within the open portions of the east Diamond ditch was cleared on May 3, 2012. This work was conducted in the open portions of the ditch from the north fence to a small culvert beneath a vehicle turn-around located approximately 50 feet north of the Grand River. The vegetation and

shallow soil from within the ditch was graded and feathered into the adjacent topography to further define the ditch (see Photographs 9, 11 and 12).

The storm sewers and ditches will continue to be monitored as part of on-going site inspections and activities. The vegetation within the open ditches will be mowed as required to maintain proper storm water management. Photographs of the ditch clearing are provided as Photograph 9 through 12.

Center Storm Pipe Replacement

During storm events it was observed by site personnel that water flowed into the catch basin and 12-inch RCP on the western side of the road. However, based on qualitative observations the volume of the water entering the catch basin on the west side of the access road was not equal to the water exiting on the east side. Therefore it appeared that storm water was infiltrating beneath the road. When exposed during excavation the pipe was found to consist of several smaller pieces of RCP joined together. The storm pipe was replaced and extended to directly connect into the covered pipe portion of the east Diamond ditch. The repair activities were conducted on May 7 and May 9, 2012. No work was conducted on May 8, 2012 due to weather conditions.

The existing pipe was excavated and a new smooth-walled HDPE pipe was installed into the trench. The rock in the old pipe outfall was removed and a shallow trench was extended from the old pipe outfall to the existing east Diamond ditch pipe. The gravel road material and top soil were scraped off and segregated for re-use (see Photograph 13). Excavated soil was stockpiled on liners adjacent to the areas being excavated to use as backfill after pipe replacement and installation (see Photograph 18). No additional soil was required for backfilling. As indicated above, no COPR, fly ash or milk of lime settling material was observed during the excavation.

A short section of the existing RCP was mortared into the existing catch basin on the west side of the road. Based on inspection it was determined that this section of pipe and seal to the catch basin was in adequate condition. Therefore, this section of the pipe was left in place. The replacement smooth-walled HDPE pipe was coupled to the RCP. The coupling was secured using stainless steel bands and a concrete "boot" was then poured and shaped over the joint (see Photographs 14). The work plan specified a protective steel pipe would be installed around the HDPE beneath the access road. However, based on field observations and as described in an email dated May 7, 2012 from Haley & Aldrich to the Ohio EPA and U.S. EPA, the new pipe was able to be placed at a depth beneath the road that precluded the need for the protective cover. U.S. EPA approved the modification in an email on May 7, 2012. The Ohio EPA requested additional information on May 7, 2012 which was provided on May 9, 2012. Copies of these correspondences are attached and the modifications summarized below.

The new HDPE pipe was extended from the catch basin connection and joined to the existing east Diamond ditch pipe using a wye connector pipe (see Photographs 15 through 17). The portion within the access road was backfilled with 304 limestone and compacted with a hydraulic machine mounted compactor. The remaining portion of the pipe and excavation was backfilled with excavated soil and tamped in place (see Photographs 19 and 20).

After backfill has been placed, the gravel road surface was replaced. In other areas, approximately 6-inches of top soil was placed over the work area and feathered into the adjoining areas. The areas receiving topsoil and other vegetated areas disturbed during the maintenance activities were seeded to

match the seed and cover applied on other recent OU20 improvements. Photographs of the installation of the new storm sewer and restored area are provided as Photograph 15 through 21.

If you have any questions or concerns, please contact me at (517) 651-2400.

Sincerely,

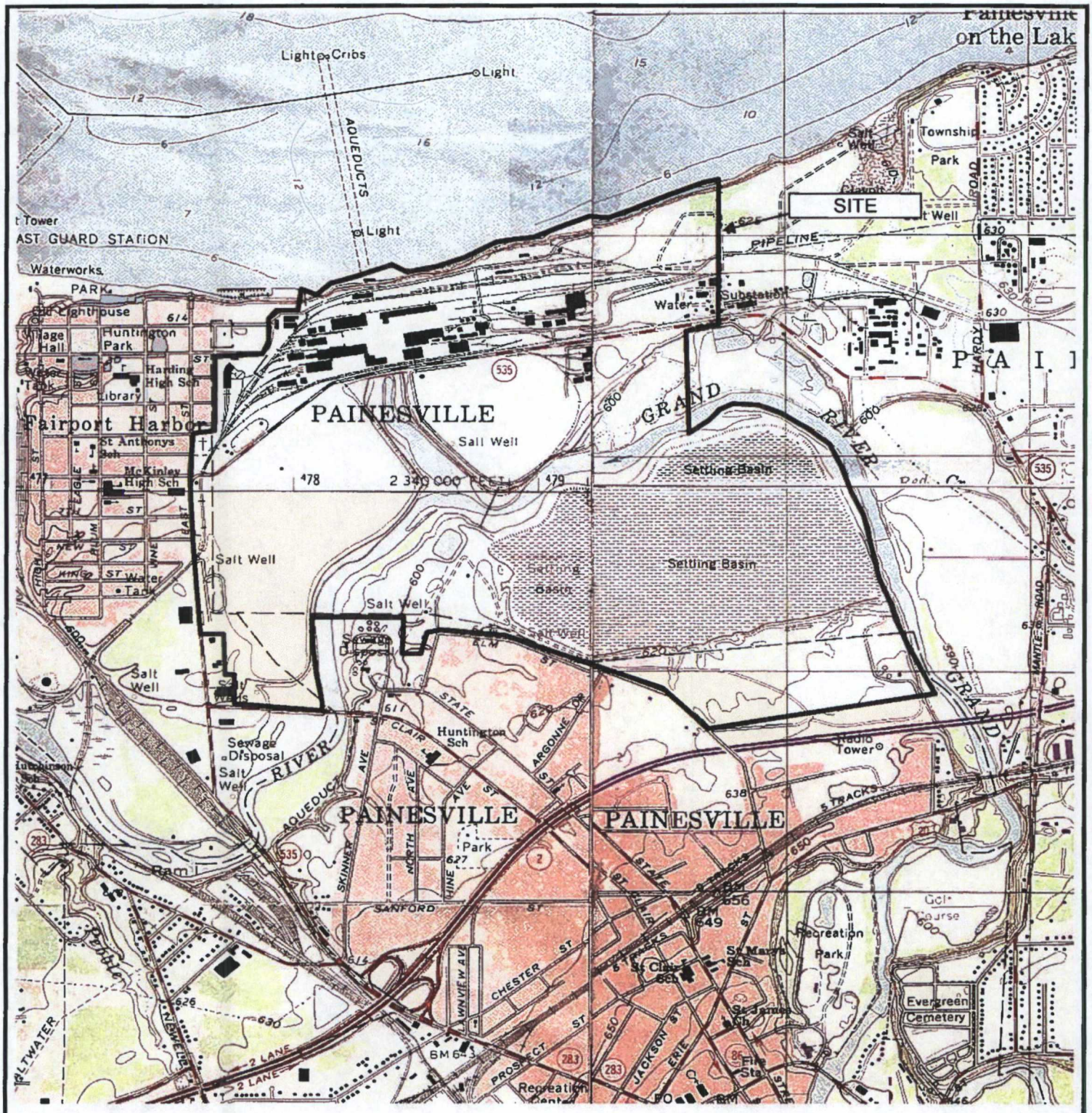
for Teresa C. Jordan
Site Coordinator, Painesville PRP Group

Attachments:

Figure 1. Site Location Map
Figure 2. Storm Drain Maintenance and Improvement – General Site Layout and Work Area
Figure 3. Storm Drainage Eastern Portion of Operable Unit 20
Photographs 1 through 21
Ohio EPA and U.S. EPA Correspondence

cc: Enrique Castro, Tierra Solutions, Inc
Johanna Coulter, Andrews Kurth LLP
Lene Hill, CT Consultants
Todd Davis, Hemisphere
Chris DeJarlais, Boulder Environmental Consulting
Valerie Gill, Hull & Associates, Inc.
Lloyd Ross, Haley & Aldrich, Inc.

CLE:G:\35183_TSI_Diamond\028_Tech_Admin_Support_2011\Deliverables\OU20_Storm_Maintenance\OU20_Storm_Sewer_Work_Summary_20120802.docx



SCALE 1" = 2000'

SOURCE: USGS 7.5 MIN QUADRANGLE

MENTOR, OHIO 1963
(REVISED 1992)

HULL & ASSOCIATES, INC.
SOLON, OHIO

FORMER DIAMOND SHAMROCK PAINESVILLE
WORKS SITE

FIGURE 1

SITE LOCATION MAP

CITY OF PAINESVILLE, LAKE COUNTY, OHIO

DATE: JANUARY 2008

TIE001.600.0314

OU22

OU20

FAIRPORT NURSERY ROAD

CHEMTURA PROPERTY

FORMER DIAMOND SHAMROCK WORKS SITE

APPROXIMATE WORK AREA OF STORMWATER DRAINAGE MAINTENANCE & IMPROVEMENT

OU16

OU20

OU20

GRAND RIVER

GRAND RIVER

FAIRPORT NURSERY ROAD

PAD

PAD

LEGEND:

OPERABLE UNIT BOUNDARIES

APPROXIMATE EXTENT OF WORK AREA

NOTES:

1. GROUND SURFACE CONTOURS ARE APPROXIMATE AND BASED ON CAD DRAWING PROVIDED BY HULL & ASSOCIATES. CONTOURS SHOWN WITHIN OU16 DO NOT REFLECT IMPROVEMENTS COMPLETED.

N

W E

S

0 300 600

SCALE IN FEET

HALEY& ALDRICH

FORMER DIAMOND SHAMROCK PAINESVILLE WORKS SITE
PAINESVILLE, LAKE COUNTY, OHIO

STORM DRAIN MAINTENANCE AND IMPROVEMENT - GENERAL SITE LAYOUT AND WORK AREA

SCALE: AS SHOWN
FEBRUARY 2012

FIGURE 2

G:\35183_TSI_DIAMOND\GLOBAL\CAD\DRAWINGS\35183-DRAINAGE_MAINTENANCE.DWG

LEGEND:

- APPROXIMATE PROPERTY LINE
- APPROXIMATE LOCATION OF OPEN PORTION OF EAST DIAMOND DITCH
- PIPED PORTION OF DRAINAGE SYSTEM

N
W E
S

0 75 150
SCALE IN FEET

HALEY & ALDRICH

OPERABLE UNIT 20
FORMER DIAMOND SHAMROCK PAINESVILLE WORKS SITE
PAINESVILLE, LAKE COUNTY, OHIO

STORM DRAINAGE EASTERN PORTION OF OPERABLE UNIT 20

SCALE: AS SHOWN
AUGUST 2012

FIGURE 3

G:\35183_TSI_DIAMOND\GLOBAL\CAD\DRAWINGS\35183-OU20_STORM_MAINT_POST_R1.DWG

Photograph 1. North Storm Pipe: Preparation of area for new apron

Photograph 2. North Storm Pipe: Construction of new apron

Photograph 3. North Storm Pipe: Construction of new apron

Photograph 4. North Storm Pipe: construction of new apron

Photograph 5. North Storm Pipe: construction of new apron

Photograph 6. North Storm Pipe: construction of new apron

Photograph 7. North Storm Pipe: construction of new apron

Photograph 8. North Storm Pipe: Testing flow across new apron

Photograph 9. Diamond Ditch looking south: Clearing and exposing ditch south of groundwater extraction system

Photograph 10. Diamond Ditch: Inlet of piped portion of Diamond ditch north of groundwater extraction system.

Photograph 11. Diamond Ditch looking south: Cleared and exposed ditch south of groundwater extraction system to Grand River

Photograph 12. Diamond Ditch looking south: Cleared and exposed ditch south of groundwater extraction system to pipe beneath vehicle turn around.

Photograph 13. Center Access Road Storm Pipe. Gravel road removed.

Photograph 14. Center Access Road Storm Pipe: Installation of concrete boot to protect connection to existing pipe.

Photograph 15. Center Access Road Storm Pipe: Installation of wye connection to Diamond Ditch pipe.

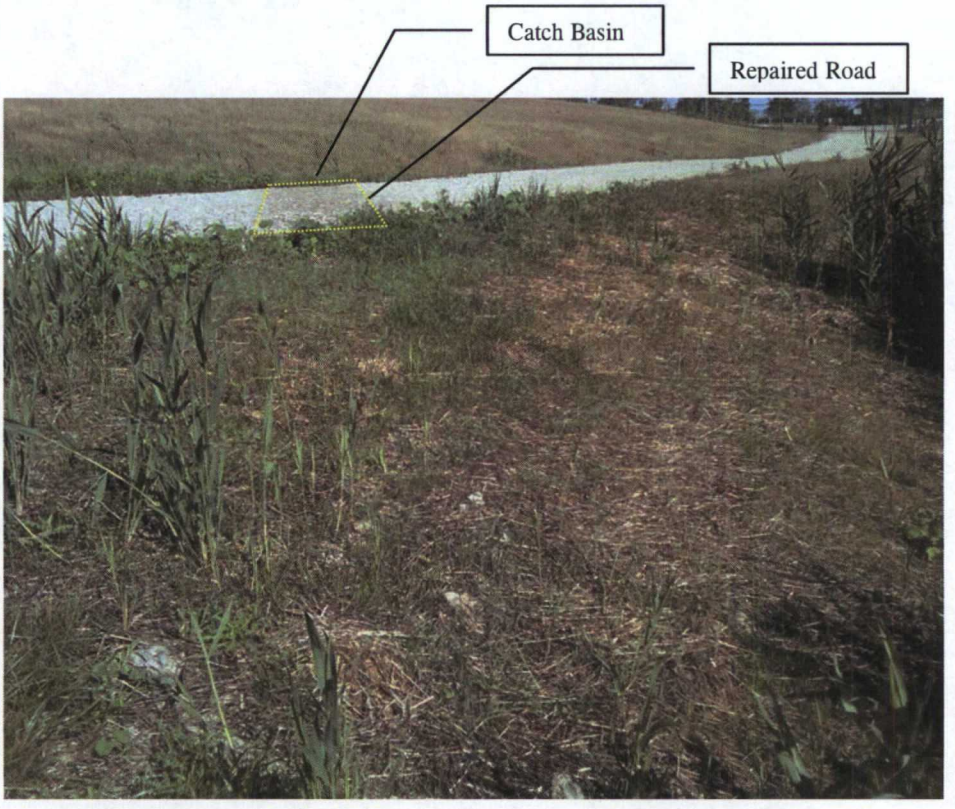
Photograph 16. Center Access Road Storm Pipe: Center Access Road Pipe connected to existing Diamond ditch pipe and backfilling.

Photograph 17. Center Access Road Storm Pipe: Connection of Center Road Pipe with Diamond Ditch Pipe partially backfilled.

Photograph 18. Center Access Road Storm Pipe: Excavated soil stockpile

Photograph 19. Center Access Road Pipe looking west: Backfilling and compacting over new storm pipe.

Photograph 20. Center Access Road Pipe looking west: Backfilling and compacting over new storm pipe.



Photograph 21. Center Access Road Pipe: Restored area (August 1)

Ross, Lloyd

From: Zikmanis, Gunars [Gunars.Zikmanis@epa.state.oh.us]
Sent: 11 May 2012 8:29 AM
To: Ross, Lloyd
Cc: Heer, Teri; Teresa Jordan; Chris DeJarlais; Correll, Anthony
Subject: RE: Former Diamond Shamrock Painesville Works Site - Storm Drainage Maintenance

Thank you Lloyd. You have answered all of my question.

Gunars

From: Ross, Lloyd [mailto:LRoss@haleyaldrich.com]
Sent: Wednesday, May 09, 2012 4:04 PM
To: Zikmanis, Gunars
Cc: Heer, Teri; Teresa Jordan; Chris DeJarlais; Correll, Anthony
Subject: RE: Former Diamond Shamrock Painesville Works Site - Storm Drainage Maintenance

Good afternoon Gunars,

Sorry for the delay in responding. Here is the information you requested:

1. The overall length of the existing pipe replaced was approximately 30 feet and consisted of several pieces of reinforced concrete pipe (RCP). As indicated in the work plan, the pipe was extended to the East Diamond Ditch Pipe. That run - from the catch basin west of the access road to the East Diamond Ditch pipe - is approximately 40 feet.
2. A short section of the existing RCP was mortared into place to the catch basin. Based on inspection during the repair work it was found to be in good condition. Therefore a gasketed HDPE pipe (bell-and-spigot) was installed onto the short RCP pipe connected to the catch basin. This connection was further secured with stainless steel bands and a concrete "boot" was then poured and shaped over the joint.
3. A small piece of the existing East Ditch pipe was removed to allow for an HDPE "Y" (clean-out or wye) pipe to be installed. The third leg of the Y pipe was oriented to line up with the new HDPE pipe installed beneath the access road. The connections were connected similar to above with gasketed bell-and-spigot type connections and secured by stainless steel bands.
4. #57 crushed limestone was utilized for the pipe bedding and placed to one foot above the pipe. ODOT #304 limestone was used for backfill across the road. Backfill was placed in thin lifts and compacted with an excavator mounted, vibratory plate compactor. Significant energy was exerted in the compaction of backfill and proof-rolling revealed no pumping or deflection. No additional compaction testing was planned for the narrow pipe trench.

Please let me know if you have any additional questions.

Lloyd

From: Zikmanis, Gunars [mailto:Gunars.Zikmanis@epa.state.oh.us]
Sent: 08 May 2012 1:11 PM
To: Ross, Lloyd
Cc: Heer, Teri
Subject: RE: Former Diamond Shamrock Painesville Works Site - Storm Drainage Maintenance

Hi Lloyd,

I just have a few questions on the HDPE pipe installation.

1. What is the length of the pipe run being replaced.
2. How is the new HDPE pipe connected and sealed to the existing catch basin.
3. How is the new HDPE pipe connected to the existing East Diamond Ditch Pipe.
4. Are you going to check compaction during backfilling.

Thanks

Gunars

From: Ross, Lloyd [mailto:LRoss@haleyaldrich.com]
Sent: Monday, May 07, 2012 9:57 AM
To: Ross, Lloyd; Heer, Teri; Zikmanis, Gunars; Martin.LindaB@epamail.epa.gov
Cc: Teresa Jordan; Enrique Castro; johannacoulter@andrewskurth.com; Lene Hill; Todd S. Davis (tdavis@hemispheredev.com); Chris DeJarlais; Valerie Gill; Hagen, David; Reinhart, Lauren; Correll, Anthony; kerrydefer@myfrontiermail.com
Subject: RE: Former Diamond Shamrock Painesville Works Site - Storm Drainage Maintenance

Good morning,

We wanted to let everyone know there will a slight modification of the work described in the March 7, 2012 "Work Plan to Conduct Drainage System Maintenance" (work plan). The work plan indicated that:

> "The existing center storm pipe would be replaced with a 12- inch diameter HDPE smooth wall pipe. The portion of the new pipe beneath the access road will be installed within an outer protective steel pipe. The new HDPE pipe would be connected and sealed to the existing catch basin. The new pipe would extend beneath the road and be connected directly to the east Diamond ditch pipe."

The center storm pipe and the east Diamond ditch pipe has been uncovered. It has been determined that the new pipe can be placed in existing clay material and have 3 to 5 feet of clean cover material placed over the pipe as it passes beneath the road. Based on this amount of cover, the outer protective steel pipe beneath the road is not considered necessary and would only present a potential maintenance issue. Therefore, we do not plan to install the outer steel protective casing. There are no other changes to the plan.

Please feel free to contact me if you have any questions or concerns.

Lloyd

From: Ross, Lloyd
Sent: 07 March 2012 1:58 PM
To: 'Heer, Teri'; 'Zikmanis, Gunars'; Martin.LindaB@epamail.epa.gov
Cc: 'Teresa Jordan'; Enrique Castro; 'johannacoulter@andrewskurth.com'; Lene Hill; Todd S. Davis (tdavis@hemispheredev.com); Chris DeJarlais; Valerie Gill; Hagen, David; Reinhart, Lauren
Subject: Former Diamond Shamrock Painesville Works Site - Storm Drainage Maintenance

Good afternoon,

Please find attached a letter describing proposed storm drainage maintenance activities at the former Diamond Shamrock Painesville Works site. Hard copies of the attached will be sent via regular mail.

Sincerely,

Lloyd S. Ross
Senior Scientist
HALEY & ALDRICH
5755 Granger Road, Suite 320
Cleveland, Ohio 44131
Tel: 216.706.1327
Fax: 216.706.1377
Cell: Non-responsive
lross@HaleyAldrich.com
www.HaleyAldrich.com

Ross, Lloyd

From: LindaB Martin [Martin.LindaB@epamail.epa.gov]
Sent: 07 May 2012 2:54 PM
To: Ross, Lloyd
Cc: Correll, Anthony; Chris DeJarlais; Hagen, David; Enrique Castro; Zikmanis, Gunars; johannacoulter@andrewskurth.com; kerrydefer@myfrontiermail.com; Lene Hill; Reinhart, Lauren; Todd S. Davis (tdavis@hemispheredev.com); Teresa Jordan; Heer, Teri; Valerie Gill
Subject: RE: Former Diamond Shamrock Painesville Works Site - Storm Drainage Maintenance

Hi Lloyd, Thanks for the update. USEPA is fine with the change unless there is something that OEPA has an issue with. If we need to discuss further please feel free to contact me. Thanks LM

Linda Martin
Remedial Project Manager
USEPA
77 W. Jackson (SR-6J)
Chicago, IL 60604
PHONE: 312-886-3854
FAX: 312-886-4071